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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/736,654

12/12/2000

Ron Kimmel

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11/02/2004

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
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EXAMINER

CHANG, JON CARLTON

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/736,654

Applicant(s)

KIMMEL ET AL.

Examiner

Jon Chang

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 and 21-23 is/are allowed.
- 6) ☒ Claim(s) 12, 15 and 24 is/are rejected.
- 7) ☒ Claim(s) 13, 14, 16-20, 25 and 26 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Response to Applicant's Amendment and Arguments

1. The amendment filed March 23, 2004 has been entered and made of record.
Claims 21-26 have been added. Claims 1-26 are pending.

Applicant's arguments on pages 10-17 have been fully considered, and are persuasive. Therefore, the rejections under 35 U.S.C. § 102 and 103 are withdrawn.

The Office Action contains a new ground of rejection, and is therefore nonfinal.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by the article, "Using Distance Maps for Accurate Surface Representation in Sampled Volumes" by Gibson.

Regarding claim 12, Gibson discloses a method comprising the steps of:

- a) computing a distance map of a source image (section 3, first paragraph); and
- b) downsampling the first distance map having a first resolution to form a second distance map having a second resolution (section 3, third paragraph, wherein "sampled distance maps" implies that the distance map was sampled; section 4, first paragraph,

including footnote 2, wherein the "low resolution distance map" as the result of sampling implies a second resolution, which is a lower resolution resulting from downsampling)

As to claim 15, Gibson further discloses that the first resolution is greater than the second resolution (in section 4, first paragraph, including footnote 2, "low resolution distance map" implies that the sampled distance map is of lower resolution than the original distance map).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gibson.

With regard to claim 24, the remarks provided above for claim 12 are applicable. Gibson is silent with regard to a computer readable medium on which is embedded one or more computer programs for implementing the method. However, the subject matter of the article relates to rendering (e.g., see abstract). The Examiner takes Official Notice that utilizing computers is well known in the rendering art. It would have been obvious to one of ordinary skill in the art to utilize a computer to implement Gibson's method because computers are widely available, provide flexibility for implementing algorithms such as for rendering, and relatively inexpensive. In implementing Gibson's method using a computer, the computer readable medium would be inherent.

Allowable Subject Matter

7. Claims 1-11 and 21-23 are allowed.
8. Claims 13-14, 16-20 and 25-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

References Cited

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The article, "Automated Fast Recognition and Location of Arbitrarily Shaped Objects by Image Morphology" by Shih et al. teaches subject matter similar to that


recited in claim 1. For example, the article teaches utilizing a distance transform (Euclidean distance) to reflect minimum distances from each object point to the boundary of the object. The article is silent with regard to the distance being relative to the center of a pixel, and that the nearest point on the boundary is located to sub-pixel accuracy.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (703)305-8439. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jon Chang
Primary Examiner
Art Unit 2623

Jon Chang
October 26, 2004